

XL.—On the Abnormal Operculum of *Polydonta elegans* of New Zealand. By Dr. J. E. GRAY, F.R.S. &c.

IN the 'Annals and Magazine of Natural History' for May 1854, N.S. vol. xiii. p. 419, I described the reproduced operculum of a *Fusus*, fig. 1, and the restored operculum of *Pleurotoma babylonica*, showing that the restored operculum and the mended part of one only partially destroyed differed from the normal form of the operculum of the species.

At that time I had not observed the same fact in opercula of a spiral form. In an interesting collection of shells and other animals made in New Zealand by Dr. Andrew Sinclair, the late Colonial Secretary of that colony, I found a specimen of *Polydonta elegans* with a very abnormal operculum; arising, I have little doubt, from the operculum having been entirely destroyed by some external violence and reproduced by the animal.

The reproduced operculum is circular, of the size of the mouth of the shell, but instead of being formed of numerous narrow, very gradually enlarged whorls, it has a rather large central circular part or nucleus, which extends into a broad, rather rapidly enlarging whorl and a half, somewhat like the operculum or the more circular-mouthed *Littorinidæ*.



Reproduced operculum of
Polydonta elegans.

I may observe, that though I have examined all the opercula of shells that have come under my notice for years, I have never seen any example of reproduction of the operculum in the *Trochidæ* before; but according to the following paragraph, extracted from Mr. Clark's 'Marine Mollusca,' p. 309, it is not uncommon in *Trochus lineatus*:—"A singular character is attached to this species, which I have not observed in any other *Trochus*. The animal either casts the operculum, or is deprived of it by the attacks of enemies, perhaps from its own *pulli*, white masses of which, in the genial season, I have seen deposited on the foot, and they may possibly feed on and destroy it; however this may be, numerous examples are found with the opercula in various stages of development and renewal, but never resembling the original: this is a curious fact, which I can at present scarcely account for on rational grounds. The renewals and reparations form irregular spiral, oblique and elliptical curves, or, instead of the sixteen normal volutions, often only show two grossly spiral ones, as in the *Littorina littorea*. I have many such in my collection. I may observe, that, however the sculpture of the

area may be varied, the operculum always retains the circular form."

I think the irregularity may be easily explained, when we consider that the animal has to reproduce the operculum in the most rapid manner to replace the lost part, and therefore commencing from the centre, it forms only one or one and a half broad whorl, instead of the large number which it gradually deposited. As it has to adapt the operculum to the increased size of the mouth of the shell and of the foot on which it is formed, and the end of the foot of the animal and the circular mouth of the shell not being altered by the abstraction of the operculum, the reproduced operculum is naturally of the form of the previous normally formed one.

XLI.—*Note on Reticularia immersa and Halia prætenuis.*

By the Rev. THOMAS HINCKS, B.A.

IN the 'Annals' for February 1855 I described a supposed Polyzoön under the name of *Halia prætenuis*. I had never met with the species living, and merely inferred from the character of the cell, &c. that it must be ranked as a Polyzoön, and not as a Hydroid. Mr. Alder, having recently made a careful examination of the common parasite of *Sertularia abietina* and other zoophytes, which passes as the *Reticularia immersa* of Professor Wyville Thomson, has informed me that he can detect no difference between this species and the *Halia*, and that he believes them to be identical. I have now no doubt that his opinion is correct, and that the genus *Halia* was founded on specimens of the zoophyte which Prof. Thomson has described as *Reticularia immersa*. In characterizing this species, however, he has fallen into a mistake as to the form of the cell, and his figure (*vide* Annals, Ser. 2. vol. xi. pl. 16) is not an accurate representation of the reality. Deriving my knowledge of *Reticularia*, as I did, from his description and figure, there was nothing to lead me to suspect its identity with the form which I had obtained on mussel-shells from the Dogger Bank, and which I published as *Halia prætenuis*. I could have no doubt that the zoophyte of his paper was not the species which I had before me when I constituted the new genus.

The cause of this mistake on the part of so able a naturalist may perhaps be found in the difficulty which attaches to the examination of *Reticularia* in its ordinary state,—the cells being densely packed together and forming a confused mass, amidst which it is no easy matter to trace the form. When the species creeps over shell (as was the case in my specimens) the character